

## **CLAIM AMENDMENTS**

### **Claim Amendment Summary**

#### **Claims pending**

- Before this Amendment: Claims 1-3, 6, 8-10, 12, 15-20, 22-25, 27-29, 31, 34-39, 41-56, and 59-65.
- After this Amendment: Claims 1, 2, 6, 8, 10, 12, 15-20, 22, 25, 27, 29, 31, 34-39, 41-55, and 59-61, 64, and 65.

#### **Non-Elected, Canceled, or Withdrawn claims:**

- Before this Amendment: Claims 4, 5, 7, 11, 13, 14, 21, 26, 30, 32, 33, 40, 57, and 58.
- Per this Amendment: Claims 3, 9, 23, 24, 28, 56, 62, and 63

**Amended claims:** 1, 2, 6, 8, 10, 12, 15-20, 22, 25, 27, 29, 31, 34-39, 41-55, and 61.

**New claims:** 66-68.

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### **Claims:**

#### **1. (Currently Amended)** A method comprising

identifying an original graphic data object rendered in association with a substantially-rectangular original screen having a horizontal axis and a vertical axis, wherein the original screen has a resizing point on the horizontal axis such

that a line extending through the resizing point and parallel to the vertical axis intersects the original graphic data object;

~~obtaining a proportionate graphic data object by proportionally modifying the size of the original graphic data object~~

~~obtaining a target graphic data object by adding a stretch distance to the width of the proportionate graphic data object; and~~

identifying a target screen having a different aspect ratio than the original screen, wherein a target graphic data object corresponding to the original graphic data object is to be rendered in association with the target screen;

determining a height,  $H_{OO}$ , and a width,  $W_{OO}$ , of the original graphic data object;

determining a height,  $H_{OS}$ , and a width,  $W_{OS}$ , of the original screen;

determining a height,  $H_{TS}$ , and a width,  $W_{TS}$ , of the target screen;

determining a distance,  $D_{VO}$ , between a vertical edge of the original graphic data object and a vertical edge of the original screen, and a distance,  $D_{HO}$ , between a horizontal edge of the original graphic data object and a horizontal edge of the original screen;

calculating a height ratio,  $R_H$  such that:

$$R_H = (H_{TS} / H_{OS});$$

calculating a stretch distance,  $S$ , such that:

$$S = W_{TS} - (R_H * W_{OS});$$

calculating a height,  $H_{TO}$ , and a width,  $W_{TO}$ , of the target graphic data object, such that:

$$H_{TO} = H_{OO} * R_H; \text{ and}$$

$$W_{TO} = (W_{OO} * R_H) + S;$$

calculating a distance  $D_{VT}$  between a vertical edge of the target graphic data object and a vertical edge of the target screen, wherein the vertical edge of the target graphic data object corresponds to the vertical edge of the original graphic data object and the vertical edge of the target screen corresponds to the vertical edge of the original screen, such that:

$$D_{VT} = D_{VO} * R_H;$$

calculating a distance  $D_{HT}$  between a horizontal edge of the target graphic data object and a horizontal edge of the target screen, wherein the horizontal edge of the target graphic data object corresponds to the horizontal edge of the original graphic data object and the horizontal edge of the target screen corresponds to the horizontal edge of the original screen, such that:

$$D_{HT} = D_{HO} * R_H;$$

calculating display coordinates for the target graphic data object; and  
rendering the target graphic data object in association with a the target screen, wherein the target screen has a different aspect ratio than the original screen at a location indicated by the display coordinates.

2. **(Currently Amended)** The method as defined in Claim 1, further comprising outputting a display that includes the target graphic data object displayed at the display coordinates on the target screen wherein ~~proportionally modifying the size of the original graphic data object comprises proportionally modifying the size of the original graphic data object by a ratio of the target screen height to the original screen height.~~

**3-5. (Cancelled)**

6. **(Currently Amended)** The method as defined in Claim 1, ~~further comprising~~ wherein calculating the display coordinates comprises:

calculating intermediate display coordinates based on the calculated  $H_{TO}$ ,  $W_{TO}$ ,  $D_{VT}$ , and  $D_{HT}$ ; and

calculating the display coordinates by rounding the intermediate display coordinates to an integer value, coordinates associated with the target graphic data object, thereby potentially modifying the size of the target graphic data object; and

outputting a display that includes the target graphic data object displayed at the display coordinates on the target screen.

**7. (Canceled)**

**8. (Currently Amended)** A method comprising:

identifying a substantially-rectangular first original graphic data object rendered in association with a substantially-rectangular original screen having an x-axis, wherein the original screen has a resizing point on the x-axis such that a line extending through the resizing point and perpendicular to the x-axis intersects the first original graphic data object;

~~calculating a height ratio as the ratio of a target screen height to the original screen height;~~

~~obtaining a first proportionate graphic data object by multiplying each of the height, width, distance from the top edge, and distance from the left edge of the first original graphic data object by the height ratio~~

~~calculating a stretch distance by subtracting the product of the height ratio and the width of the original screen from the width of the target screen;~~

~~obtaining a first target graphic data object by adding the stretch distance to the width of the first proportionate graphic data object; and~~

identifying a target screen having a different aspect ratio than the original screen, wherein a first target graphic data object corresponding to the first original graphic data object is to be rendered in association with the target screen;

determining a height,  $H_{OS}$ , and a width,  $W_{OS}$ , of the original screen;

determining a height,  $H_{TS}$ , and a width,  $W_{TS}$ , of the target screen;

calculating a height ratio,  $R_H$ , such that:

$$R_H = H_{TS} / H_{OS};$$

calculating a stretch distance,  $S$ , such that:

$$S = W_{TS} - (R_H * W_{OS});$$

determining a height,  $H_{OO}(1)$ , and a width,  $W_{OO}(1)$ , of the first original graphic data object;

determining a distance,  $O_{TD}(1)$ , between a top edge of the first original graphic data object and a top edge of the original screen, and a distance,  $O_{LD}(1)$ , between a left edge of the first original graphic data object and a left edge of the original screen;

calculating a height,  $H_{TO}(1)$ , and a width,  $W_{TO}(1)$ , of the first target graphic data object, such that:

$$H_{TO}(1) = R_H * H_{OO}(1); \text{ and}$$

$$W_{TO}(1) = (R_H * W_{OO}(1)) + S;$$

calculating a distance,  $T_{TD}(1)$  between a top edge of the first target graphic data object and a top edge of the target screen, and a distance,  $T_{LD}(1)$  between a left edge of the first target graphic data object and a left edge of the target screen, such that:

$$T_{TD}(1) = O_{TD}(1) * R_H; \text{ and}$$

$$T_{LD}(1) = O_{LD}(1) * R_H;$$

identifying a rectangular second original graphic data object rendered in association with the original screen, wherein a right edge of the second original graphic data object is to the left of the line extending through the resizing point, and wherein a second target graphic data object corresponding to the second original graphic data object is to be rendered in association with the target screen;

determining a height,  $H_{OO}(2)$ , and a width,  $W_{OO}(2)$ , of the second original graphic data object;

determining a distance,  $O_{TD}(2)$ , between a top edge of the second original graphic data object and the top edge of the original screen, and a distance,  $O_{LD}(2)$ , between a left edge of the second original graphic data object and the left edge of the original screen;

calculating a height,  $H_{TO}(2)$ , and a width,  $W_{TO}(2)$ , of the second target graphic data object, such that:

$$H_{TO}(2) = R_H * H_{OO}(2); \text{ and}$$

$$W_{TO}(2) = R_H * W_{OO}(2);$$

calculating a distance,  $T_{TD}(2)$ , between a top edge of the second target graphic data object and the top edge of the target screen, and a distance,  $T_{LD}(2)$ , between a left edge of the second target graphic data object and the left edge of the target screen, such that:

$T_{TD}(2) = O_{TD}(2) * R_H$ ; and

$T_{LD}(2) = O_{LD}(2) * R_H$ ; and

rendering the first and second target graphic data object-objects in association with the target screen, wherein the target screen has a different aspect ratio than the original screen according to the calculated  $H_{TO}(1)$ ,  $W_{TO}(1)$ ,  $T_{TD}(1)$ ,  $T_{LD}(1)$ ,  $H_{TO}(2)$ ,  $W_{TO}(2)$ ,  $T_{TD}(2)$ , and  $T_{LD}(2)$ .

**9. (Cancelled)**

**10. (Currently Amended)** The method as defined in Claim 8, further comprising:

identifying a substantially rectangular second-third original graphic data object rendered in association with the original screen, wherein the second-third original graphic data object has a left edge to the right of the line extending through the resizing point, and wherein a third target graphic data object corresponding to the third original graphic data object is to be rendered in association with the target screen; and perpendicular to the x-axis;

obtaining a second proportionate graphic data object by multiplying each of the height, width, distance from the top edge, and distance from the right edge of the second original graphic data object by the height ratio; and



determining a height,  $H_{OO}(3)$ , and a width,  $W_{OO}(3)$ , of the third original graphic data object;

determining a distance,  $O_{TD}(3)$ , between a top edge of the third original data object and the top edge of the original screen, and a distance,  $O_{RD}(3)$ , between a right edge of the third original data object and a right edge of the original screen;

calculating a height,  $H_{TO}(3)$ , and a width,  $W_{TO}(3)$ , of the third target graphic data object such that:

$$H_{TO}(3) = H_{OO}(3) * R_H; \text{ and}$$

$$W_{TO}(3) = W_{OO}(3) * R_H;$$

calculating a distance,  $T_{TD}(3)$ , between a top edge of the third target graphic data object and the top edge of the target screen, and a distance,  $T_{RD}(3)$ , between a right edge of the third target graphic data object and a right edge of the target screen such that:

$$T_{TD}(3) = O_{TD}(3) * R_H; \text{ and}$$

$$T_{RD}(3) = O_{RD}(3) * R_H; \text{ and}$$

rendering the ~~second proportionate~~ third target graphic data object in association with the target screen according to the calculated  $H_{TO}(3)$ ,  $W_{TO}(3)$ ,  $T_{TD}(3)$ , and  $T_{RD}(3)$ .

**11. (Canceled)**

**12. (Currently Amended)** The method as defined in Claim 8, wherein the stretch distance, S, is included in the calculation of the width of the first original-target graphic data object based on a determination that is designated as being disproportionately resizable because the line extending through the resizing point and perpendicular to the x-axis intersects the first original graphic data object.

**13-14. (Canceled)**

**15. (Currently Amended)** A method according to Claim 8, further comprising:

obtaining graphic characteristics for ~~and text attached to the first original~~  
graphic data object; and

~~repositioning the text to correspond to the first target graphic data object;~~  
and

applying the graphic characteristics for the first original graphic data object  
to the first target graphic data object.

**16. (Currently Amended)** A method according to ~~Claim 15~~ claim 66, wherein attaching to the first target graphic data object, the text corresponding to the text attached to the first original graphic data object ~~the repositioning~~ further comprises maintaining the text being attached to the first target graphic data object within opposing top and bottom edges and opposing left and right edges of the first target graphic data object.

**17. (Currently Amended)** A method according to Claim 15, wherein ~~obtaining the graphic characteristics comprises obtaining~~ comprise a fill pattern.

**18. (Currently Amended)** A method according to Claim 15, wherein ~~obtaining the graphic characteristics comprises obtaining~~ comprise a color designation.

**19. (Currently Amended)** A method according to Claim 15, wherein ~~obtaining the graphic characteristics comprises obtaining~~ comprise a border style of the first original graphic data object.

**20. (Currently Amended)** The method as defined in Claim 8, further comprising:

calculating intermediate display coordinates based on the calculated  $H_{TO}(1)$ ,  $W_{TO}(1)$ ,  $T_{TD}(1)$ , and  $T_{LD}(1)$ ; and

calculating target display coordinates for the first target graphic data object by rounding the intermediate display coordinates to an integer value, coordinates associated with the first target graphic data object, thereby potentially modifying the size of the first target graphic data object; and

outputting a display that includes the first target graphic data object displayed at the display coordinates on the target screen.

**21. (Canceled)**

**22. (Currently Amended)** A method comprising:

identifying an original graphic data object rendered in association with a substantially-rectangular original screen having a y-axis, wherein the original screen has a resizing point on the y-axis such that a line extending through the resizing point and perpendicular to the y-axis intersects the first-original graphic data object;

obtaining a proportionate graphic data object by proportionally modifying the size of the original graphic data object by multiplying both the width and the

height of the original graphic data object by a ratio of a width of the target screen to a width of the original screen;

obtaining a target graphic data object having the same width as the proportionate graphic data object and a height equal by adding a stretch distance to the height of the proportionate graphic data plus a stretch distance;  
and

calculating provisional display coordinates for the target graphic data object based, at least in part, on the height and width of the target graphic data object;

calculating display coordinates for the target graphic data object by rounding the provisional display coordinates to an integer value, thereby potentially modifying the size of the target graphic data object; and

using the display coordinates to render rendering the target graphic data object in association with the target screen, wherein the target screen has a different aspect ratio than the original screen.

**23-24. (Cancelled)**

**25. (Currently Amended)** The method as defined in Claim 22, further comprising wherein the provisional coordinates are calculated further based on:

a distance between a left edge of the target graphic data object and a left edge of the target screen, as calculated by multiplying a distance between a left edge of the original graphic data object and a left edge of the original screen by the ratio of the width of the target screen to the width of the original screen; and

a distance between a top edge of the target graphic data object and a top edge of the target screen, as calculated by multiplying a distance between a top edge of the original graphic data object and a top edge of the original screen by the ratio of the width of the target screen to the width of the original screen.

~~calculating display coordinates by rounding to an integer value, coordinates associated with the target graphic data object, thereby potentially modifying the size of the target graphic data object; and~~

~~outputting a display that includes the target graphic data object displayed at the display coordinates on the target screen.~~

**26. (Canceled)**

**27. (Currently Amended)** A method comprising:

~~identifying a substantially-rectangular first original graphic data object rendered in association with a substantially-rectangular original screen having a y-axis, wherein the original screen has a resizing pint-point on the y-axis such that a line extending through the resizing pint-point and perpendicular to the y-axis intersects the first original graphic data object;~~

~~calculating a width ratio as the ratio of a target screen width to the original screen width;~~

~~obtaining a first proportionate graphic data object by multiplying each of the height, width, distance from the top edge, and distance from the left edge of the first original graphic data object by the width ratio; and~~

~~calculating a stretch distance by subtracting the product of the width ratio and the height of the original screen from the height of the target screen;~~

~~obtaining a first target graphic data object by adding the stretch distance to the height of the first proportionate graphic data object; and~~

identifying a target screen having a different aspect ratio than the original screen, wherein a first target graphic data object corresponding to the first original graphic data object is to be rendered in association with the target screen;

determining a height,  $H_{OS}$ , and a width,  $W_{OS}$ , of the original screen;

determining a height,  $H_{TS}$ , and a width,  $W_{TS}$ , of the target screen;

calculating a width ratio,  $R_W$ , such that:

$$R_W = W_{TS} / W_{OS};$$

calculating a stretch distance,  $S$ , such that:

$$S = H_{TS} - (R_W * H_{OS});$$

determining a height,  $H_{OO}(1)$ , and a width,  $W_{OO}(1)$ , of the first original graphic data object;

determining a distance,  $O_{TD}(1)$  between a top edge of the first original graphic data object and a top edge of the original screen, and a distance,  $O_{LD}(1)$  between a left edge of the first original graphic data object and a left edge of the original screen;

calculating a height,  $H_{TO}(1)$ , and a width,  $W_{TO}(1)$ , of the first target graphic data object such that:

$$H_{TO}(1) = (R_W * H_{OO}(1)) + S; \text{ and}$$

$$W_{TO}(1) = R_W * W_{OO}(1);$$

calculating a distance,  $T_{TD}(1)$ , between a top edge of the first target graphic data object and a top edge of the target screen and a distance,  $T_{LD}(1)$ , between a left edge of the first target graphic data object and a left edge of the target screen such that such that:

$$T_{TD}(1) = O_{TD}(1) * R_W; \text{ and}$$

$$T_{LD}(1) = O_{LD}(1) * R_W;$$



identifying a rectangular second original graphic data object rendered in association with the original screen, wherein a bottom edge of the second original graphic data object is above the line extending through the resizing point, and wherein a second target graphic data object corresponding to the second original graphic data object is to be rendered in association with the target screen;

determining a height,  $H_{OO}(2)$ , and a width,  $W_{OO}(2)$ , of the second original graphic data object;

determining a distance,  $O_{TD}(2)$ , between a top edge of the second original graphic data object and the top edge of the original screen and a distance,  $O_{LD}(2)$ , between a left edge of the second original graphic data object and the left edge of the original screen;

calculating a height,  $H_{TO}(2)$ , and a width,  $W_{TO}(2)$ , of the second target graphic data object such that:

$$H_{TO}(2) = R_W * H_{OO}(2); \text{ and}$$

$$W_{TO}(2) = R_W * W_{OO}(2);$$

calculating a distance,  $T_{TD}(2)$ , between a top edge of the second target graphic data object and the top edge of the target screen and a distance,  $T_{LD}(2)$ , between a left edge of the second target graphic data object and the left edge of the target screen such that:

$$T_{TD}(2) = O_{TD}(2) * R_W; \text{ and}$$

$$T_{LD}(2) = O_{LD}(2) * R_W; \text{ and}$$

rendering the first and second target graphic data object-objects in association with the target screen, wherein the target screen has a different aspect ratio than the original screen according to the calculated  $H_{TO}(1)$ ,  $W_{TO}(1)$ ,  $T_{TO}(1)$ ,  $T_{LD}(1)$ ,  $H_{TO}(2)$ ,  $W_{TO}(2)$ ,  $T_{TO}(2)$ , and  $T_{LD}(2)$ .

## 28. (Cancelled)

**29. (Currently Amended)** The method as defined in Claim 27, further comprising:

identifying a substantially rectangular second-third original graphic data object rendered in association with the original screen, wherein the second-third original graphic data object has a top edge below the line extending through the resizing point, wherein a third target graphic data object corresponding to the third original graphic data object is to be rendered in association with the target screen; and perpendicular to the y-axis;

obtaining a second proportionate graphic data object by multiplying each of the height, width, distance from the bottom edge, and distance from the left edge of the second original graphic data object by the width ratio; and

determining a height,  $H_{OO}(3)$ , and a width,  $W_{OO}(3)$ , of the third original graphic data object;

determining a distance,  $O_{BD}(3)$ , between a bottom edge of the third original graphic data object and a bottom edge of the original screen and a distance  $O_{LD}(3)$  between a left edge of the third original graphic data object and the left edge of the original screen;

calculating a height,  $H_{TO}(3)$ , and a width,  $W_{TO}(3)$ , of the third target graphic data object such that:

$$H_{TO}(3) = H_{OO}(3) * R_W; \text{ and}$$

$$W_{TO}(3) = W_{OO}(3) * R_W;$$

calculating a distance,  $T_{BD}(3)$ , between a bottom edge of the third target graphic data object and a bottom edge of the target screen, and a distance,  $T_{LD}(3)$ , between a left edge of the third target graphic data object and the left edge of the target screen such that:

$$T_{BD}(3) = O_{BD}(3) * R_W; \text{ and}$$

$$T_{LD}(3) = O_{LD}(3) * R_W; \text{ and}$$

rendering the ~~second proportionate~~ third target graphic data object in association with the target screen according to the calculated  $H_{TO}(3)$ ,  $W_{TO}(3)$ ,  $T_{BD}(3)$ ,  $T_{LD}(3)$ .

### **30. (Canceled)**

**31. (Currently Amended)** The method as defined in Claim 27, wherein the stretch distance, S, is included in the calculation of the height of the first target;

~~the first original graphic data object based on a determination that is designated as being disproportionately resizable because the line extending through the resizing point and perpendicular to the y-axis intersects the first original graphic data object.~~

**32-33. (Canceled)**

**34. (Currently Amended)** A method according to Claim 27, further comprising:

obtaining graphic characteristics for ~~and text attached to the first original graphic data object;~~ and

~~repositioning the text to correspond to the first target graphic data object;~~  
and

applying the graphic characteristics for the first original graphic data object to the first target graphic data object.

**35. (Currently Amended)** A method according to ~~Claim 34~~ claim 68, wherein attaching to the first target graphic data object, the text corresponding to the text attached to the first original graphic data object, the repositioning further comprises maintaining the text being attached to the first target graphic data object within opposing top and bottom edges and within opposing left and right edges of the first target graphic data object.

**36. (Currently Amended)** A method according to Claim 34, wherein ~~obtaining the graphic characteristics comprises obtaining~~ comprise a fill pattern.

**37. (Currently Amended)** A method according to Claim 34, wherein ~~obtaining the graphic characteristics comprises obtaining~~ comprise a color designation.

**38. (Currently Amended)** A method according to Claim 34, wherein ~~obtaining the graphic characteristics comprises obtaining~~ comprise a border style of the first original graphic data object.

**39. (Currently Amended)** The method as defined in Claim 27, further comprising:

calculating intermediate display coordinates based on the calculated  $H_{TO}(1)$ ,  $W_{TO}(1)$ ,  $T_{TD}(1)$ , and  $T_{LD}(1)$ ; and

calculating target display coordinates for the first target graphic data object by rounding the intermediate display coordinates to an integer value, coordinates associated with the first target graphic data object, thereby potentially modifying the size of the first target graphic data object; and

outputting a display that includes the first target graphic data object displayed at the display coordinates on the target screen.

**40. (Canceled)**

**41. (Currently Amended)** A computer readable media comprising computer-readable instructions which, when executed by a computing system, direct the computing system to transform an original screen to a target screen by:

identifying the original screen and the target screen, wherein $[[[:]]$  the original and target screens each have opposing top and bottom edges with a respective height there between and opposing left and right edges with a respective width there between;

identifying an original graphic data object on the original screen, wherein the original graphic data object has opposing top and bottom edges with a respective height there between and opposing left and right edges with a respective width there between;

identifying a height,  $H_{OS}$ , and a width,  $W_{OS}$ , of the original screen;

identifying a height,  $H_{TS}$ , and a width,  $W_{TS}$ , of the target screen;

identifying a height,  $H_{OO}$ , and a width,  $W_{OO}$ , of the original graphic data object;

identifying a distance,  $O_{VD}$ , between a vertical edge of the original graphic data object and a vertical edge of the original screen, and a distance,  $O_{HD}$ , between a horizontal edge of the original graphic data object and a horizontal edge of the original screen;

defining a target graphic data object that corresponds to the original graphic data object, wherein the target graphic data object is to be rendered on the target screen;

in an event that  $(W_{TS} / W_{OS}) > (H_{TS} / H_{OS})$  the target screen is proportionately wider than the original screen;

identifying a resizing point along a horizontal axis of the original screen;

determining that the original graphic data object is disproportionately resizable because a line through the resizing point and perpendicular to the horizontal axis intersects the original graphic data object;

calculating a height ratio,  $R_H$ , equal to the ratio of the height of the target screen to the height of the original screen such that;

$$R_H = H_{TS} / H_{OS};$$

obtaining a proportionate data object by multiplying each of the height, width, distance from the top edge, and distance from the left edge of the original graphic data object by the height ratio;

calculating a stretch distance,  $S$ , such that: by subtracting the product of the height ratio and the width of the original screen from the width of the target screen;



obtaining a target data object by adding the stretch distance to the width of the proportionate graphic data object on the target screen;

$$S = W_{TS} - (W_{OS} * R_H);$$

calculating a height,  $H_{TO}$ , and a width,  $W_{TO}$ , of the target graphic data object such that:

$$H_{TO} = H_{OO} * R_H; \text{ and}$$

$$W_{TO} = (W_{OO} * R_H) + S; \text{ and}$$

calculating a distance,  $T_{VD}$ , between a vertical edge of the target graphic data object and a vertical edge of the target screen, and a distance,  $T_{HD}$ , between a horizontal edge of the target graphic data object and a horizontal edge of the target screen, wherein the vertical and horizontal edges of the target graphic data object correspond, respectively, to the vertical and horizontal edges of the original graphic data object and wherein the vertical and horizontal edges of the target screen correspond, respectively, to the vertical and horizontal edges of the original screen, such that:

$$T_{VD} = O_{VD} * R_H; \text{ and}$$

$$T_{HD} = O_{HD} * R_H;$$

in an event that the target screen is proportionately higher than the original screen ( $H_{TS} / H_{OS} > (W_{TS} / W_{OS})$ ):

identifying a resizing point along a vertical axis of the original screen;

determining that the original graphic data object is disproportionately resizable because a line through the resizing point and perpendicular to the vertical axis intersects the original graphic data object;

calculating a width ratio equal to the ratio of the width of the target screen to the width of the original screen,  $R_W$ , such that:

$$R_W = W_{TS} / W_{OS};$$

obtaining a proportionate data object by multiplying each of the height, width, distance from the top edge, and distance from the left edge of the original graphic data object by the width ratio;

calculating a stretch distance,  $S$ , such that: by subtracting the product of the width ratio and the height of the original screen from the height of the target screen; and

obtaining a target data object by adding the stretch distance to the height of the proportionate graphic data object on the target screen; and rendering the target data object in association with the target screen.

$$S = H_{TS} - (H_{OS} * R_W);$$

calculating a height,  $H_{TO}$ , and a width,  $W_{TO}$ , of the target graphic data object such that:

$$H_{TO} = (H_{OO} * R_W) + S; \text{ and}$$

$$W_{TO} = W_{OO} * R_W;$$

calculating a distance,  $T_{VD}$ , between a vertical edge of the target graphic data object and a vertical edge of the target screen, and a distance,  $T_{HD}$ , between a horizontal edge of the target graphic data object and a horizontal edge of the target screen, wherein the vertical and horizontal edges of the target graphic data object correspond, respectively, to the vertical and horizontal edges of the original graphic data object and wherein the vertical and horizontal edges of the target screen correspond, respectively, to the vertical and horizontal edges of the original screen, such that:

$$T_{VD} = O_{VD} * R_W; \text{ and}$$

$$T_{HD} = O_{HD} * R_W; \text{ and}$$

rendering the target data object in association with the target screen according to the calculated  $H_{TO}$ ,  $W_{TO}$ ,  $T_{VD}$ , and  $T_{HD}$ .

**42. (Currently Amended)** The computer readable media according to Claim 41, further comprising:

obtaining graphic characteristics for and text attached to the original graphic data object;

attaching to the target graphic data object, text that corresponds to the text attached to the original ~~repositioning the text to correspond to the target~~ graphic data object; and

applying the graphic characteristics to the target graphic data object.

**43. (Currently Amended)** The computer readable media according to Claim 42, wherein attaching to the target graphic data object, the text that corresponds to the text attached to the original graphic data object the ~~repositioning~~ comprises maintaining the text within opposing top and bottom edges and within opposing left and right edges of the target graphic data object.

**44. (Currently Amended)** The computer readable media according to Claim 42, wherein ~~obtaining the graphic characteristics comprises obtaining~~ comprise a fill pattern.

**45. (Currently Amended)** The computer readable media according to Claim 42, wherein ~~obtaining the graphic characteristics comprises obtaining~~ comprise a color designation.

**46. (Currently Amended)** The computer readable media according to Claim 42, wherein ~~obtaining the graphic characteristics comprises obtaining~~ comprise a border style of the original graphic data object.

**47. (Currently Amended)** The computer readable media as defined in Claim 41, further comprising:

calculating intermediate display coordinates based on the calculated  $H_{TO}$ ,  $W_{TO}$ ,  $T_{VD}$ , and  $T_{HD}$ ; and

calculating target display coordinates for the first associated with the target graphic data object by rounding the intermediate display coordinates to an integer value, coordinates of the target graphic data object, thereby potentially modifying the size of the target graphic data object; and

outputting a display that includes the target graphic data object displayed at the display coordinates on the target screen.

**48. (Currently Amended)** A computer readable media comprising computer-readable instructions which, when executed by a computer, performs steps that include:

determining that:

an original screen is to be transformed into a target screen of a different aspect ratio, wherein the original and target screens each have opposing top and bottom edges with a respective height there between and opposing left and right edges with a respective width there between, and wherein  $H_{OS}$  represents the height of the original screen,  $H_{TS}$  represents the height of the target screen,  $W_{OS}$  represents the width of the original screen, and  $W_{TS}$  represents the width of the target screen;

a resizing point is defined on the original screen, wherein the resizing point is represented by a coordinate pair  $(X_R, Y_R)$ , wherein  $X_R$  represents a distance from the left edge of the original screen to the resizing point, and wherein  $Y_R$  represents a distance from the top edge of the original screen to the resizing point; and

a resizing line perpendicular to one of the edges of the original screen intersects:

the resizing point; and

one or more original points on at least one edge of an original graphic data object having a plurality of original points, each of the

plurality of original points each having respective distances a  
respective distance from the opposing top and bottom edges of the  
original screen and from the opposing left and right edges of the  
original screen, wherein, a coordinate pair ( $X_0$ ,  $Y_0$ ) is defined for  
each of the original points such that for each point,  $X_0$  represents a  
distance from the left edge of the original screen to the point, and  
 $Y_0$  represents a distance from the top edge of the original screen to  
the point, and wherein, based on the intersection of the resizing line  
with the one or more original points, the original graphic data object  
is designated as being disproportionately resizable;

in an event that  $(W_{TS} / W_{OS}) > (H_{TS} / H_{OS})$  ~~the target screen is~~  
~~proportionately wider than the original screen and the resizing point is along a~~  
horizontal axis of the original screen:

~~multiplying a location of each of the plurality of original points by a~~  
~~height ratio equal to the ratio of the target screen height to the original~~  
~~screen height to obtain corresponding proportional points;~~

calculating a stretch distance,  $S$ , such that: ~~by subtracting the~~  
~~product of the height ratio and the width of the original screen from the~~  
~~width of the target screen;~~

$$S = W_{TS} - ((H_{TS} / H_{OS}) * W_{OS});$$

~~for each of the plurality of original points that is to the right of the resizing line, adding the stretch distance to the distance of the corresponding proportional point from the left edge of the target screen; and~~

~~for each of the plurality of original points that intersects the resizing line, transforming the corresponding proportional point into a target object line that is perpendicular to the resizing line and having a length equal to the stretch distance;~~

for each of the plurality of original points for which  $(X_O < X_R)$ , calculating a target point represented by a coordinate pair  $(X_T, Y_T)$ , wherein  $X_T$  represents a distance from the left edge of the target screen to the target point, and  $Y_T$  represents a distance from the top edge of the target screen to the target point, and wherein:

$$X_T = X_O * (H_{TS} / H_{OS}); \text{ and}$$

$$Y_T = Y_O * (H_{TS} / H_{OS});$$

for each of the plurality of original points for which  $(X_O > X_R)$ , calculating a target point represented by a coordinate pair  $(X_T, Y_T)$ , wherein  $X_T$  represents a distance from the left edge of the target screen to the target point and  $Y_T$  represents a distance from the top edge of the target screen to the target point, and wherein:

$$X_T = (X_O * (H_{TS} / H_{OS})) + S; \text{ and}$$



$$Y_T = Y_O * (H_{TS} / H_{OS}); \text{ and}$$

for each of the plurality of original points for which ( $X_O = X_R$ ), calculating a target line segment between a first point ( $X_{T1}$ ,  $Y_{T1}$ ) and a second point ( $X_{T2}$ ,  $Y_{T2}$ ), wherein  $X_{T1}$  represents a distance from the left edge of the target screen to the first point,  $Y_{T1}$  represents a distance from the top edge of the target screen to the first point,  $X_{T2}$  represents a distance from the left edge of the target screen to the second point, and  $Y_{T2}$  represents a distance from the top edge of the target screen to the second point, and wherein:

$$X_{T1} = X_O * (H_{TS} / H_{OS});$$

$$Y_{T1} = Y_O * (H_{TS} / H_{OS});$$

$$X_{T2} = (X_O * (H_{TS} / H_{OS})) + S; \text{ and}$$

$$Y_{T2} = Y_O * (H_{TS} / H_{OS});$$

in an event that  $(W_{TS} / W_{OS}) < (H_{TS} / H_{OS})$  the target screen is proportionately higher than the original screen and the resizing point is along a vertical axis of the original screen:

multiplying a location of each of the plurality of original points by a width ratio equal to the ratio of the target screen width to the original screen width to obtain corresponding proportional points;

calculating a stretch distance,  $S$ , such that: by subtracting the product of the width ratio and the height of the original screen from the height of the target screen;

$$S = H_{TS} - ((W_{TS} / W_{OS}) * H_{OS});$$

for each of the plurality of original points that is below the resizing line, adding the stretch distance to the distance of the corresponding proportional point from the top edge of the target screen; and

for each of the plurality of original points that intersects the resizing line, transforming the corresponding proportional point into a target object line that is parallel to the opposing left and right edges of the target screen and having a length equal to the stretch distance; and

for each of the plurality of original points for which  $(Y_O < Y_R)$ ,  
calculating a target point represented by a coordinate pair  $(X_T, Y_T)$ ,  
wherein  $X_T$  represents a distance from the left edge of the target screen to the target point and  $Y_T$  represents a distance from the top edge of the target screen to the target point, and wherein:

$$X_T = X_O * (W_{TS} / W_{OS}); \text{ and}$$

$$Y_T = Y_O * (W_{TS} / W_{OS});$$

for each of the plurality of original points for which  $(Y_O > Y_R)$ ,  
calculating a target point represented by a coordinate pair  $(X_T, Y_T)$ ,  
wherein  $X_T$  represents a distance from the left edge of the target screen to

the target point and  $Y_T$  represents a distance from the top edge of the target screen to the target point, and wherein:

$$X_T = X_O * (W_{TS} / W_{OS}); \text{ and}$$

$$Y_T = (Y_O * (W_{TS} / W_{OS})) + S; \text{ and}$$

for each of the plurality of original points for which ( $Y_O = Y_R$ ), calculating a target line segment between a first point ( $X_{T1}, Y_{T1}$ ) and a second point ( $X_{T2}, Y_{T2}$ ), wherein  $X_{T1}$  represents a distance from the left edge of the target screen to the first point,  $Y_{T1}$  represents a distance from the top edge of the target screen to the first point,  $X_{T2}$  represents a distance from the left edge of the target screen to the second point, and  $Y_{T2}$  represents a distance from the top edge of the target screen to the second point, and wherein:

$$X_{T1} = X_O * (W_{TS} / W_{OS});$$

$$Y_{T1} = Y_O * (W_{TS} / W_{OS});$$

$$X_{T2} = X_O * (W_{TS} / W_{OS}); \text{ and}$$

$$Y_{T2} = (Y_O * (W_{TS} / W_{OS})) + S; \text{ and}$$

forming a target graphic data object on the target screen from the proportional target points and the target-object-lines line segments.

**49. (Currently Amended)** The computer readable media according to Claim 48, wherein forming the target graphic data object further comprises:

obtaining graphic characteristics for and text attached to the original graphic data object;

attaching, repositioning the text to correspond to the target graphic data object, text corresponding to the text attached to the original graphic data object; and

applying the graphic characteristics to the target graphic data object.

**50. (Currently Amended)** The computer readable media according to Claim 49, wherein attaching to the target graphic data object, the text that corresponds to the text attached to the original graphic data object the repositioning comprises maintaining the text within opposing top and bottom edges and the opposing left and right edges of the target graphic data object.

**51. (Currently Amended)** The computer readable media according to Claim 49, wherein obtaining the graphic characteristics comprises obtaining comprise a fill pattern.

**52. (Currently Amended)** The computer readable media according to Claim 49, wherein ~~obtaining the graphic characteristics comprises obtaining~~ comprise a color designation.

**53. (Currently Amended)** The computer readable media according to Claim 49, wherein ~~obtaining the graphic characteristics comprises obtaining~~ comprise a border style of the original graphic data object.

**54. (Currently Amended)** The computer readable media as defined in Claim 48, ~~further comprising wherein forming the target graphic data object~~ further comprises:

for each target point ( $W_T, Y_T$ ), calculating an intermediate display point;  
and

for each intermediate display point, calculating a display point coordinates  
~~associated with the target graphic data object by rounding to an integer value,~~  
~~coordinates of the intermediate display point, target graphic data object, thereby~~  
potentially modifying the size of the target graphic data object; and

outputting, ~~on the target screen,~~ a display that includes the target graphic data object as defined by the displayed at the display coordinates on the target  
screen.

**55. (Currently Amended)** A computer graphics system for obtaining first and second target graphic data objects on a ~~substantially~~-rectangular target screen based on first and second original graphic data objects on a ~~substantially~~ rectangular original screen, the target screen having a different aspect ratio than that of the original screen, the computer graphics system comprising:

means for identifying a line perpendicular to an edge of the original screen, wherein the line projects from a resizing point on the edge;

means for determining that the first original graphic data object is proportionally resizable because the line does not intersect the first original graphic data object;

means for determining that the second original graphic data object is non-proportionally resizable because the line intersects the second original graphic data object;

means for determining a height,  $H_{OS}$ , and a width,  $W_{OS}$ , of the original screen;

means for determining a height  $H_{TS}$  and a width,  $W_{TS}$ , of the target screen;

means for determining a resizing ratio,  $R$ , and a stretch distance,  $S$ , such that:

if  $(H_{TS} / H_{OS}) > (W_{TS} / W_{OS})$ ;

$R = W_{TS} / W_{OS}$ ; and

$$S = H_{TS} - (R * H_{OS}); \text{ and}$$

$$\text{if } (H_{TS} / H_{OS}) < (W_{TS} / W_{OS}):$$

$$R = H_{TS} / H_{OS}; \text{ and}$$

$$S = W_{TS} - (R * W_{OS});$$

means for proportionally resizing the first original graphic data object to obtain a first target graphic data object, by calculating a height,  $H_{TO}(1)$ , and a width,  $W_{TO}(1)$ , of the first target graphic data object such that:

$$H_{TO}(1) = H_{OO}(1) * R; \text{ and}$$

$$W_{TO}(1) = W_{OO}(1) * R;$$

wherein  $H_{OO}(1)$  represents a height of the first original graphic data object, and  $W_{OO}(1)$  represents a width of the first original graphical data object;

means for proportionally resizing the second original graphic data object to obtain a proportional graphic data object, by calculating a height,  $H_{PO}$ , and a width,  $W_{PO}$ , of the proportional graphic data object such that:

$$H_{PO} = H_{OO}(2) * R; \text{ and}$$

$$W_{PO} = W_{OO}(2) * R;$$

wherein  $H_{OO}(2)$  represents a height of the second original graphic data object, and  $W_{OO}(2)$  represents a width of the second original graphic data object; and

means for non-proportionally resizing the proportional graphic data object by ~~addition of a stretch distance thereto to obtain a second target graphic data object,~~ calculating a height,  $H_{TO}(2)$ , and a width  $W_{TO}(2)$ , of the second target graphic data object, such that:

if  $(H_{TS} / H_{OS}) > (W_{TS} / W_{OS})$ :

$H_{TO}(2) = H_{PO} + S$ ; and

$W_{TO}(2) = W_{PO}$ ; and

if  $(H_{TS} / H_{OS}) < (W_{TS} / W_{OS})$ :

$H_{TO}(2) = H_{PO}$ ; and

$W_{TO}(2) = W_{PO} + S$ .

**56-58. (Canceled)**



**59. (Previously Presented)** The computer graphics system as defined in Claim 55, further comprising:

means for obtaining graphic characteristics for and text associated with the first original graphic data object;

means for repositioning the text to correspond to the first target graphic data object;

means for applying the graphic characteristics to the first target graphic data object; and

means for displaying the first target graphic data object on the target screen.

**60. (Previously Presented)** The computer graphics system as defined in Claim 59, wherein the means for repositioning comprises means for positioning the text within opposing top and bottom edges and opposing left and right edges of the first target graphic data object.

**61. (Currently Amended)** The computer graphics system as defined in Claim 55, further comprising means for calculating display coordinates associated with the first and second target graphic data objects by:

calculating initial coordinates of the first and second target graphic data objects based on a distance  $D_{VT}(1)$  between the first target graphic data object and a vertical edge of the target screen, a distance  $D_{HT}(1)$  between the first target graphic data object and a horizontal edge of the target screen, a distance  $D_{VT}(2)$  between the second target graphic data object and a vertical edge of the target screen, a distance  $D_{HT}(2)$  between the second target graphic data object and a horizontal edge of the target screen, such that:

$$D_{VT}(1) = D_{VO}(1) * R;$$

$$D_{HT}(1) = D_{HO}(1) * R;$$

$$D_{VT}(2) = D_{VO}(2) * R; \text{ and}$$

$$D_{HT}(2) = D_{HO}(2) * R;$$

rounding to an integer value, the initial coordinates of the first and second target graphic data objects, thereby potentially modifying the respective sizes size of the first or second target graphic data objects.

**62-63. (Cancelled)**

**64. (Previously Presented)** The computer graphics system as defined in Claim 55, further comprising:

means for obtaining graphic characteristics for and text associated with the second original graphic data object;

means for repositioning the text to correspond to the second target graphic data object;

means for applying the graphic characteristics to the second target graphic data object; and

means for displaying the second target graphic data object on the target screen.

**65. (Previously Presented)** : The computer graphics system as defined in Claim 64, wherein the means for repositioning comprises means for positioning the text within opposing top and bottom edges and opposing left and right edges of the second target graphic data object.

**66. (New)** A method according to Claim 8, further comprising:  
identifying text attached to the first original graphic data object;  
attaching to the first target graphic data object, text corresponding to the text attached to the first original graphic data object.

**67. (New)** The method as defined in claim 8, further comprising outputting a display that includes the first and second target graphic data objects displayed on the target screen.

**68. (New)** A method according to Claim 27, further comprising:  
identifying text attached to the first original graphic data object;  
attaching to the first target graphic data object, text corresponding to the text attached to the first original graphic data object.